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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,185	06/03/2005	Robert Lohr	METPAT P76AUS	5313

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EXAMINER	
PATEL, DHARTI HARIDAS	

ART UNIT	PAPER NUMBER
2836	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/534,185	LOHR ET AL.	
	Examiner	Art Unit	
	Dharti H. Patel	2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 14-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andre, Patent No. 5,960,717, in view of Musachio, Patent No. 5,277,285.

With respect to Claim 14, Andre discloses a device for permanently monitoring a ground [Fig. 1, guidance and electrical supply rail 2] for safety purposes [Col. 2 lines 23-31; Col. 4 lines 55-64; the raisable guidance assembly unit, as shown in Fig. 1, that incorporates means for furnishing electrical current through the ground rail guidance assembly, as well as a power supply and a protective device, is implicitly monitoring the segmented rail, which is a grounded rail, for safety purposes- Col. 4, lines 55-64; Col. 6 lines 41-52] and for preventing a risk of electrical shock to passengers [Col. 2 lines 27-30; Since the vehicle is supplied with power in this manner from a live supply rail to a return grounded rail, the vehicle is at all times grounded, which will provide passengers inside the vehicle with protection from electrocution as well as outside pedestrians who happen to come in contact with the rail] on a self-guided public transportation vehicle utilizing electrical energy as a driving force [Col. 1 lines 5-

19] and running on tires [see cars with independent wheels, Col. 1 line 9-10] along a metal guide rail [Fig. 1, electric supply/ground rail 2] supported on a surface [Fig. 3, base wall 3 rests on the surface of ground 4; Col. 2 lines 56-59], using at least one self-guiding assembly governing a movable directional assembly [Fig. 1, 3; Col. 3 lines 1-13] with at least one guide wheel [Fig. 1, guide wheels 12 and 13] traveling along the metal guide rail and utilizing electrical energy as a driving force [Fig. 1; Col. 1 lines 54-64] the device comprising: at least two electrical contact elements [Fig. 4, electrical contact elements 43 and 44] contacting the grounded metal guide rail wherein the contact elements are separated [Fig. 4, electrical contact elements 43 and 44 rub against conductor 14 and 15 like a shoe to capture electrical current; Col. 3, lines 61-67 and Col. 4, lines 1-12; both electrical contacts come in contact with a segment of live or grounded rail - Col. 5 lines 33-36; Col. 6 lines 41-52] from one another and in contact with the metal guide rail. However, Andre does not go into detail concerning the circuitry required to form a current passage detector/ safety loop.

Musachio discloses a segmented rail system that supplies power to electric vehicles [Col. 4 lines 28-31] with contact elements [Fig. 1, current collectors 24 and 26; Fig. 2, one contact on trolley 50 and one on trolley 52], together with a portion of the guide rail [power rail segment 20- Col. 4 lines 57-60] extending between the contact elements and a current passage detector, forming a safety loop [the onboard circuit of Fig. 6 sends a signal through the ground rail segment 20 to the power controllers 38 of Fig. 1; Col. 7, lines 13-20.

This is a safety circuit/loop because in the absence of a vehicle, rail segment 20 is grounded, making it safe for pedestrians- Col. 5 lines 16-20] supplied from a low voltage electrical generator [Fig. 6, RF signal generator 106] with terminals (BT+ and BT-), connected to the safety loop; and a current passage detector [Fig. 6, microprocessor 99; or alternatively Fig. 7, control circuit 238] connected to the safety loop and detecting a current flowing in the safety loop and furnishing a signal indicating whether the safety loop is one of open or closed depending upon whether electrical contact at a level of the contact elements is one of satisfactory or unsatisfactory [unsatisfactory electrical contact has the same effect as the absence of an electrical vehicle, which causes rail segment 20 to be grounded for pedestrian safety- Col. 4 lines 66-68 and Col. 5 lines 1-8; alternatively, Fig. 7, control circuit 238 comprises a current/magnetic detector that senses the presence of power rail 220. If power rail 220 is not sensed by hall effect switch 240, then rail 220 is de-energized], and when the electrical contact is unsatisfactory, the signal causing at least one of safety elements to be engaged [Col. 7, lines 35-43; if the current collectors break contact with the rail, trolley actuator 100 automatically turns off, which de-energizes RF signal generator 106, which signals the power controllers 38 in Fig. 1 to de-energize rail 21. This creates a safety walkway for pedestrians, as well as effectively grounds the vehicle and thus prevents possible electrocution; Col. 5 lines 16-20].

Andre and Musachio are analogous segmented rail systems that supply power to electrical vehicles. At the time of the invention it would have been

obvious to one of ordinary skill in the art to combine Andre's ground rail guidance assembly with a ground rail sensing device as taught by Musachio, for the benefit of an electrical guidance system that supplies power to an electrical vehicle from a powered rail then, grounds that rail when it is no longer required to supply power. This enhances safety and saves power.

With respect to Claim 15, [original] Andre discloses that at least one of the at least two electrical contact elements is supported by the self-guiding assembly [Fig. 4, current collectors 43 and 44].

With respect to Claims 16 and 17, [original] Musachio discloses that the low voltage electrical generator generates a continuous low voltage of 24 volts [Fig. 6, Col. 7 lines 13-20; RF signal generator 106 must output a continuous signal through the ground return power rail in order for power controllers 38 to keep rail 21 energized, in Fig. 1]. One of ordinary skill in the art can easily substitute another means of signaling the power controllers, such as a 24-volt generator. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable value by routine experimentation." In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980)

With respect to Claim 18, [original] Musachio discloses that a first contact element [Fig. 4, brush 78 held in place by Fig. 6 electromagnet 116] is electrically connected to a chassis [Fig. 6, connection from 116 to ground to motor 107] and to a negative terminal (BT-) of the electrical generator [Fig. 6, the node below RF generator 106] and the other contact element [the brush held in place by

electromagnet 114] is connected to a positive terminal (BT+) of the generator through the detector [from power take up trolley 110, through the microprocessor 99, to the RF generator 106], while the negative terminal (BT-) of the generator is connected to the chassis.

With respect to Claim 19, [original] Musachio discloses that a first contact element is electrically connected to a negative terminal (BT-) of the electrical generator and a second contact element is connected to a positive terminal (BT+) of the generator through the detector, while the positive terminal (BT+) is connected to a chassis [This is simply a reversal of polarity of Claim 18, and is representative of a positive grounded system routinely found in many vehicles and is an art recognized equivalent configuration.

With respect to Claim 20, [original] Musachio discloses that each of the contact elements is one of a sliding or friction shoe that is displaced along the metal guide rail [Fig. 4, brush 78; Col. 4, lines 51-55].

With respect to Claim 21, [original] Musachio discloses that the detector is a coil of an electromagnet [Fig. 7 coil 250] which actuates contacts of an interrupt switch [Fig. 7, the contacts of coil 250; when coil 250 de-energizes, rail 220 will be disconnected from the source 40 and connected to ground 42, in Fig. 1].

With respect to Claim 22, [original] Andre discloses that the contact elements [Fig. 4, electrical contact elements 43 and 44] are longitudinally attached on either side of at least one guide wheel [Col. 3, lines 49-54].

With respect to Claim 23, [original] Musachio discloses that the contact elements are attached sequentially one behind the other on a chassis at a front of a series of the vehicles [Col. 4, lines 3-12].

With respect to Claim 24, [original] Musachio discloses that the safety loop is provided at a front of a series of the vehicles with the low voltage electrical generator (BT+ and BT-) and another safety loop at a rear of the series with another low voltage electrical generator (BT+ and BT-) [Fig. 2 shows power take up trolley 52 at the front of the vehicle, and return trolley 50 at the rear of the vehicle. Each one must have its own safety loop so that when the Hall-effect switch 240 of Fig. 7 senses the presence/ absence of rail 220, it will energize/ de-energize that rail segment accordingly; Col. 4, lines 55-64].

With respect to Claim 25, [original] Musachio discloses that the negative terminals (BT-) on the low voltage electrical generator are connected to each other and to a chassis [This is the plural of Claim 19 where more than one safety loop has to be interconnected to share a battery, motor, etc. It would be obvious to one of ordinary skill in the art that the method of connecting two negative-chassis grounded systems would be to connect the two negative wires from each loop, then ground them to the chassis to provide a more reliable ground and as a result, provides a safer more redundant system].

With respect to Claim 26, [original] Musachio discloses that the negative terminals (BT-) on the low voltage electrical generators are connected to each other and the positive terminals (BT+) are connected to each other and to a

chassis [This is simply a reversal of polarity of Claim 25, and is representative of a positive grounded system routinely found in many vehicles and is an art recognized equivalent configuration.

With respect to Claim 27, [new] Musachio discloses that when the electrical contact is unsatisfactory the device also applies safety measures [unsatisfactory electrical contact has the same effect as the absence of an electrical vehicle, which causes rail segment 20 to be grounded for pedestrian safety- Col. 4 lines 66-68 and Col. 5 lines 1-8].

Response to Arguments

2. Applicant's arguments filed 05/09/2006 have been fully considered but they are not persuasive, for the following reasons:

Applicant argues on page 6 of the Remarks that Musachio [U.S. 5277285] does not attempt to monitor the quality of a connection between a vehicle ground and the grounded rail, does not attempt to determine whether the vehicle is grounded for safety purposes, does not even suggest the use of a safety loop to monitor a ground connection, and in general is not involved in any way with safety issues.

Musachio fully meets these claim limitations, as addressed in amended claim 1 above and repeated again below. The circuit shown in Fig. 6 is the safety circuit/loop. Musachio automatically monitors the quality of connection between the vehicle and ground, because if the current collectors break contact with the rail, trolley actuator 100 automatically turns off, which de-energizes RF signal

generator 106, which signals the power controllers 38 in Fig. 1 to de-energize rail 21. This creates a safety walkway for pedestrians, as well as effectively grounds the vehicle and thus prevents possible electrocution; Col. 4 lines 66-68 and Col. 5 lines 1-8 and 16-20; Col. 7, lines 35-43. There is therefore monitoring of a ground rail, a safety circuit that senses a signal passing through the ground rail, and safety elements that are engaged- the rail is grounded instead of energized if the electrical vehicle is absent or the electrical contact is bad. Unsatisfactory electrical contact through the electrical contacts has the same effect as the absence of an electrical vehicle, which causes rail segment 20 to be grounded for pedestrian safety- Col. 4 lines 66-68 and Col. 5 lines 1-8.

Applicant argues on page 6 and 7 that Andre [U.S. 5960717] is not concerned with the quality of a ground connection between the vehicle and a ground rail, but is solely concerned with preventing contact between passengers or other people and the powered rail. Applicant argues that Andre does not attempt to determine whether the vehicle is grounded for safety purposes, does not even suggest the use of a safety loop to monitor a ground connection, and in general is not involved in any way with safety issues involving grounding of the elements of the vehicle that a passenger may come into contact with.

Andre is concerned with preventing contact between passengers and the powered rail, and does this by monitoring the quality of the ground connection (similarly to Musachio) as explained above in claim 1 and repeated again below: Col. 2 lines 23-31; Col. 4 lines 55-64; the raisable guidance assembly unit, as

shown in Fig. 1, that incorporates means for furnishing electrical current through the ground rail guidance assembly, as well as a power supply and a protective device, is implicitly monitoring the segmented rail, which is a grounded rail, for safety purposes- Col. 4, lines 55-64; Col. 6 lines 41-52. We know this monitoring is taking place because Andre discloses a similar segmented system [as Musachio] that energizes and de-energizes a power supply rail by sensing for the presence of an electrical vehicle.

Since the vehicle is supplied with power in this manner from a live supply rail to a return grounded rail, the vehicle is at all times grounded, which will provide passengers inside the vehicle with protection from electrocution as well as outside pedestrians who happen to come in contact with the rail [this applies to both Andre and Musachio].

Although Andre must have a current detector with a safety loop/circuit; this is not shown expressly, and Andre is not relied upon for this. Instead, Musachio is used to expressly provide these claim limitations, as shown above in claim 1, along with a proper 35 U.S.C 103 (a) combination.

Applicant argues on page 7 that the sole result of a combination of Musachio in view of Andre would be a segmented, multi-contact system of Musachio wherein the rails would be enclosed by the linear enclosure of Andre. The examiner suggests that a combination of Andre [who teaches a guidance assembly for use with a segmented rail system for electrical vehicles] in view of Musachio [who teaches the specifics of a segmented rail system that supplies

power to electrical vehicles as needed] would result in a segmented rail system supplied with current from a guidance assembly, that monitors and controls a rail, alternately energizing and de-energizing the rail as needed, in order to supply power in a safe manner for vehicle occupants as well as pedestrians.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dharti H. Patel whose telephone number is 571-272-8659. The examiner can normally be reached on 8:30am - 5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Brian Sircus can be reached on 571-272-2800, Ext. 36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DHP
08/01/2006

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